Appendix A-Bibliography.

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Fields, D.E.; Emerson, C.J.; Chester, R.O.; Little, C.A.; Hiromoto, G. Date: 1986, April. Title: PRESTO-II: A Low-Level Waste Environmental Transport and Risk Assessment Code. Corporate Author: Oak Ridge National Laboratory, Health and Safety Research Division, Oak Ridge, TN; Instituto de Pesquisas Energeticas e Nucleares, Sao Paolo, Brazil; Oak Ridge National Laboratory, Computing and Telecommunications Division, Oak Ridge, TN. Pub: ORNL-5970; 486 pp. Abstract: PRESTO-II (Prediction of Radiation Effects from Shallow Trench Operations) is a computer code designed for the evaluation

of possible health effects from shallow-land waste-disposal trenches. The model is intended to serve as a non-site-specific screening model for assessing radionuclide transport, ensuing exposure, and health impacts to a static local population for a 1000-year period following the end of ground disposal operations at a waste site. Human exposure scenarios include normal releases (including leaching and operational spillage), human intrusion, and limited site farming or reclamation. Pathways and processes of transit from the trench to an individual or population include groundwater transport, overland flow, erosion, surface water dilution, suspension, atmospheric transport, deposition, inhalation, external exposure, and ingestion of contaminated beef, milk, crops, and water. Both population doses and individual doses as well as doses to the intruder and farmer may be calculated. Cumulative health effects in terms of cancer deaths are calculated for the population over the 1000-year period using a life-table approach. Data are included for three example sites: Barnwell, South Carolina; Beatty, Nevada; and West Valley, New York. A code listing and example input for each of the three sites are included in the appendices to this report.

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Gilbert, T.L.; Roberts, C.J. Date: 1983. Title: Long-Term Health Risks from Waste Contaminated with Radioactive Ore and Processing Residues: A New Approach to the Pathway Analysis Problem. Corporate Author: Argonne National Laboratory, Argonne, IL. Pub: CONF-830695; Proceedings of the Health Physics Society 28th Annual Meeting, Baltimore, MD, June 19-24, 1983 Abstract: Estimates of the relation between the long-term (100 to 10,000 years) health risks (H) to the maximally exposed individual and the source terms (S) from the long-lived radionuclides at sites contaminated by ore and processing residues are needed for developing appropriate waste-management guidelines and strategies. This relation may be expressed as a sum of products of source-to-exposure (E/S), exposure-to-dose (D/E), and dose-to-health-effects (H/D) conversion factors for individual pathways: H/S=(E/S)(D/E)(H/D). The E/S factors present unusual problems and a major source of uncertainty

because of the complexity of the many environmental pathways, uncertainties in the environmental models and parameters, and uncertainties in the scenarios that determine individual exposure. A new analysis of the E/S factors for all major pathways has been carried out and combined with current estimates of D/E and H/D factors to obtain generic estimates of the D/S and H/S factors for a model site. A key feature is a natural analogue analysis that permits incorporation of data on average soil concentration, dietary intakes, and body burdens of naturally occurring radionuclides in order to supplement and modify estimates from individual pathway models, thereby obtaining more reliable conversion factors. The H/S factors are used to derive radionuclide concentration limits for contaminated sites that correspond to limits imposed by current radiation protection guidelines.

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Miller, C.W.; Sjoreen, A.L.; Cotter, S.J. Date: 1986, February. Title: Estimating Doses and Risks Associated with Decontamination and Decommissioning Activities Using the CRRIS. Corporate Author: Oak Ridge National Laboratory, Oak Ridge, TN. Pub: CONF-860203; Health Physics Considerations in Decontamination and Decommissioning, Proceedings of the Health Physics Society 19th Midyear Topical Symposium, Knoxville, TN, February 2-6, 1986, 594 pp.; (pp. 125-133) Abstract: The Computerized Radiological Risk Investigation System (CRRIS) is applicable to determining doses and risks from a variety of decontamination and decommissioning activities. For example, concentrations in air from resuspended radionuclides initially deposited on the ground surface and the concentrations of deposited radionuclides in various soil layers can be obtained. The CRRIS will estimate exposure to radon and its progeny in terms of working-level months, and will compute the resulting health risks. The CRRIS consists of seven integrated computer codes that stand alone or are run as a system to calculate environmental transport, doses, and risks. PRIMUS output provides other CRRIS codes the capability to handle radionuclide decay chains. ANEMOS and RETADD-II calculate atmospheric dispersion and deposition for local and regional distances, respectively. Multiple ANEMOS runs for sources within a small area are combined on a master grid by SUMIT. MLSOIL is used to estimate effective ground surface concentrations for dose computations. TERRA calculates foodchain transport, and ANDROS calculates individual or population exposures, doses, and risks. Applications of the CRRIS to decontamination problems are discussed.

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